Identifying the professional development needs of early career teachers in Scotland using nominal group technique

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Abstract

This paper reports on phase 1 of a project commissioned by Learning and Teaching Scotland (the lead organisation for curriculum development in Scotland) to explore the continuing professional development needs of teachers in Scotland in years 2-6 of their careers. Nominal group technique (NGT) was employed to identify the CPD needs of year 2-6 teachers and to identify the relative priority of these needs. The NGT data were subsequently used, together with findings from a review of literature, to inform a national survey. The paper outlines key issues arising from the NGT phase. Conclusions consider some of the potential drawbacks of NGT as a method but focus on the added value which the NGT process contributed to the overall project design.

Keywords: continuing professional development; early career teachers; nominal group technique

Introduction

This paper reports on the use of Nominal Group Technique (NGT) in the first phase of a project commissioned by Learning and Teaching Scotland (LTS) to explore the continuing professional development (CPD) needs of teachers in Scotland in years 2-6 of their careers. The objectives of the project as a whole were:

- To seek the views of teachers in the post-probationary period of years two to six of their professional life on effective CPD they have received and to identify best practice modes and models of delivery
- To seek their views on their CPD needs
- To seek their views on the relative priorities of their CPD needs
- To seek their views on barriers to their participation in CPD and make recommendations on how these barriers might be overcome
- To compare the views of these teachers with the views of other stakeholder groups such as head teachers, local authority employers and experts in CPD
- To develop recommendations that can be used by LT Scotland to guide the development of future programmes of CPD support.

The overall project design included three distinct phases of empirical work:

1. Identification of year 2-6 teachers' views on their CPD needs using nominal group technique (NGT)
2. Online survey of year 2-6 teachers based on results of NGT and issues arising from the review of literature

3. Consultation with stakeholders on recommendations developed as a result of phases 1 and 2.

The methodological approach was designed to ensure as representative a range of views as possible, incorporating both qualitative and quantitative data. The phases were incremental in that each phase informed the next, thereby testing and re-testing the analysis, adding cumulative integrity and validity to the data.

It is phase 1 – the NGT interviews – that forms the focus for this paper. After providing a brief overview of the policy context, the paper explores the rationale for using NGT, reports on the data analysis, and then concludes with a commentary on the usefulness of NGT to this project in particular and as a group interview technique in general.

Policy Context

Teachers in Scotland are expected, and indeed contractually obliged, to work within the national CPD framework. The framework came about in part through the 'McCrone Agreement' (SEED 2001), and contains a series of standards including: the Standard for Initial Teacher Education (SITE), the Standard for Full Registration (SFR), the Standard for Chartered Teacher (SCT), and the Standard for Headship (see SEED 2003a). The SITE and the SFR are mandatory, and indeed, the SFR, while principally a requirement of teachers who wish to apply for full registration with the General Teaching Council for Scotland (GTCS) at the end of their induction year, also forms a baseline measurement of competence for all registered teachers (see Christie 2008, for further discussion of the standards framework). The SCT, on the other hand

is optional, although teachers may not begin working towards chartered teacher status until they reach the top of the maingrade scale – after six years of post-qualifying experience. In addition, all teachers are expected to undertake and account for 35 hours of CPD, to maintain a professional development portfolio, and to take part in the Professional Review and Development (PRD) process on an annual basis (see SEED 2003b). There now also exist opportunities for teachers with at least two years of experience after gaining full registration to seek 'professional recognition' in particular areas of interest through the GTCS *Framework for Professional Recognition/Accreditation* (GTCS 2007).

Despite the development of a more structured framework, as outlined above, it has been acknowledged that teachers in years 2-6 of their careers can find themselves in somewhat of a hiatus in terms of the CPD framework: they will have completed the induction year which involves considerable structured support and mentoring; those in years 2 and 3 will not yet be eligible to seek professional recognition under the GTCS scheme; and year 2-6 teachers are not yet entitled to embark on the chartered teacher programme, should they wish to.

It is worth noting that the designation of years 2-6 as a career stage relates more to the existing structure of the CPD framework in Scotland than it does to any conception of developmental stages of learning to teach. There are numerous studies reporting on frameworks for understanding teacher development, some of them linear in nature (Dreyfus and Dreyfus 1986; Berliner 1988; Brighouse 1995 in Wilson et al. 2006; Ingvarson 1998; Day 2007) and some presenting the process of teacher development as a more cyclical and/or complex journey (Huberman 1993; Tickle 2000). Yet absent

from most analyses of teacher development is any consideration of such concepts as intuition (see Atkinson and Claxton 2000), informal social learning (see McNally 2006) and the importance of context in professional development.

Early Professional Development

While the particular policy context of the research reported here is unique to Scotland, many of the issues arising will be of relevance to other national contexts seeking to explore the views of teachers at an early stage in their professional careers. Indeed, in undertaking the review of literature for this project a range of work was considered, covering both conceptual and empirical studies carried out in the UK, Europe, USA and Australia. It is worth considering some of the key issues arising from the review, in order to set the international context of early professional development (EPD). It should be noted, however, that while the term early professional development is gaining popularity as the particular context of early career teachers in the post-induction phase gains recognition, there is no hard and fast rule about where the boundaries of EPD start or end. In the literature reviewed, the most common use of the term EPD appeared to apply to the second and third years of teaching, that is, the two years following on immediately from the induction year.

Kearns' (2001) Northern Irish study found that when given the choice, early career teachers select professional development activities not only related to school priorities and class priorities but also personal interest. He reports that rather than focusing on the competence-based framework which forms the basis of the EPD policy documentation, that many new teachers focus 'predictably upon trialling lessons, extending lesson repertoires or demonstrating curriculum developments that respond

to [Northern Irish] strategic priorities, or the needs of the school or class' (p. 78). McNally (2006) also questions the impact of competence statements, or standards, on early teacher development in Scotland: he highlights the 'disparity between the actual experience that is taking place and the ordered expression of the standard [the SFR]' (p. 8).

Despite a growing interest in the contribution of informal learning to CPD, a number of studies reviewed by Wilson et al. (2006) indicate that teachers define CPD conservatively and associate it primarily with attendance at courses, seminars and workshops. Across Europe, updating teachers' subject knowledge and support for curricular reform are the most commonly reported topics for CPD. Other topics include: teaching methodologies, use of ICT, management, special needs, multicultural teaching and behaviour management (Wilson et al. 2006).

However, EPD should not be soley concerned with identifying the 'right topics' to study, but also with the social and emotional aspects of being a teacher and forging one's professional identity. For example, Turley et al. (2006), writing from an American perspective, highlight the need for EPD to be viewed as a social process as well as a technical one, and a process in which the role of trained mentors is vital.

While it was important to review studies focusing on EPD for this project, the study of CPD in general also has a lot to offer those examining the professional development needs of early career teachers. For example, in terms of the model of support adopted there is much debate about the relative effectiveness of individual and/or collaborative CPD. In 2005 an English-based CPD Review Group conducted a

systematic review of the literature on the impact of collaborative CPD on classroom teaching and learning (Cordingley et al.). Evidence of impact of individually oriented and sustained CPD interventions was compared with evidence about the impact on teaching and learning of sustained, collaborative CPD and overall, the evidence showed the effectiveness of collaborative CPD in bringing about changes in teaching and learning (Cordingley et al. 2005; Bolam and Weindling 2006). Collaboration was shown to be most effective for professional development and was also said to encourage teacher commitment and CPD ownership if the CPD focus and agenda is set by others. In contrast, the studies of individually oriented CPD provided limited evidence of their capacity to influence teacher or pupil change. Rhodes et al. (2005), in their study of newly qualified teachers in England taking part in an accredited EPD programme, argue that for early career teachers working in schools with an 'impoverished culture of collaboration and with little access to networking, it is resonable to assume that the transition to an understanding of professional self will be harder to achieve' (p. 348). So while Cordingley et al's (2005) review is not restricted to early career teachers, its importance to that stage is nonetheless clear.

It is against this conceptual background that the analysis of the NGT data was undertaken. Before moving on to discuss the analysis itself, the article outlines the structure of, and rationale for, the NGT interviews.

Nominal group technique

Rationale for using Nominal Group Technique

This phase of the project sought to address two of the research objectives, namely: to seek the views of year 2-6 teachers on their CPD needs; and to seek their views on the

relative priorities of those needs. In particular, we were seeking data which would ensure that the subsequent national survey would be informed and relevant to the target population. Individual interviews, while capable of producing rich and detailed data, were not an option as the number of interviews required to get some form of representative view would have been prohibitive in terms of both time and cost. Group interviews therefore appeared to be the most suitable methodological approach.

A variety of techniques exist for carrying out group interviews, each suiting particular circumstances and purposes, e.g. brainstorming, focus groups and the Delphi technique. However, one of the major disadvantages of many group interview techniques is that the nature of the group dynamics influences the data produced through the dominance of certain participants and the corresponding lack of opportunity for less dominant participants to contribute. This is where the structure of NGT is useful in that it allows each member of the group to participate in the process in a structured way.

The technique is also a time-effective way of producing data which conveys both range of view and strength of view, thereby helping the research team to answer both of the objectives stated above. For the purposes of this article we consider the relative benefits and drawbacks of using NGT as a technique for identifying participants' views of CPD in the hope that others might find it helpful.

Nominal Group Technique methodology

NGT is a methodological process which identifies the shared views of a group on a specific topic. It was originally conceived as a 'participation technique for social

planning situations' (Delbecq et al. 1975, p108); social planning situations being defined as: exploratory research; citizen participation; utilisation of multidisciplinary experts and proposal review. The technique has since been applied in a wide variety of group settings, including empirical research in the social sciences. While it has been used to some extent in education research (O'Neil and Jackson 1983; Lomax and MacLeman 1984; Lloyd-Jones et al. 1999; MacPhail 2001), in terms of social science research it appears more commonly to be used in the field of health studies.

NGT is a highly structured process incorporating four distinct phases:

1. Independent generation of ideas in response to a stimulus question
2. Sharing (and listing) of these ideas in round-robin fashion with no discussion
3. Clarification of each individual idea, and grouping of similar ideas together
4. Individual voting to prioritise ideas

An NGT session typically takes between 1 ½ to 2 hours (Gibson and Soanes 2000) and involves between 5 and 10 participants (Delbecq et al. 1975; O'Neil and Jackson 1983). The role of the researcher in NGT is that of facilitator and administrator thereby minimising influence on the data (Lloyd-Jones et al. 1999). Lomax and McLeman (1984) refer to the 'omniscience of the researcher' (p184) in many research methods where the assumptions of the researcher are imposed through the framing of questions and the coding of responses. This is minimised in NGT as the organisation, categorisation and prioritisation of responses is driven by group members.

The formation of the stimulus question, however, is crucial to the success of the technique and it is vital that the researcher is clear about what they want to find out from the process. Delbecq et al. (1975) compare NGT to using a microscope: 'Properly focused by means of a good question, NGT can provide a great deal of detail about the matter of concern to you' (p74). They claim that in order for participants to provide this richness of data they must themselves be knowledgeable in the area under consideration. In this particular project all participants were within the defined population and therefore had knowledge and experience of CPD and views on their own particular CPD needs.

The NGT process results in a list of responses to the question(s) in priority order, and, it is claimed (Delbecq et al. 1975), provides a consensus of opinion. This claim has since been disputed (Lomax and McLeman 1984; Lloyd-Jones et al. 1999), primarily because it is argued that the highly structured nature of the process influences group dynamics in such a way that results in an artificial consensus. It should also be noted that in obtaining consensus the researcher is unable to determine from the data where competing perspectives lie, as the data cannot be disaggregated to allow comparison of responses between different demographic groups within each session. In the case of this particular project the use of the same NGT exercise with several groups enabled triangulation of the data. Nevertheless, NGT is also open to criticism that the results are not necessarily generalisable to the whole population as the technique forces an artificial consensus to be arrived at (Lloyd-Jones et al. 1999). However, for the purposes of this part of the project, generalisability was not a key aim; more important was the exploration of a variety of views which would make the subsequent national survey more valid and focused. The assertion is therefore made that the results are

reliable for the particular groups involved but are not necessarily representative of the entire teaching population; this wider representativeness in this particular project is gained through other means such as the survey and stakeholder consultation process.

Delbecq et al. (1975) contend that the decision-making process incorporates two distinct phases: fact-finding or problem identification and evaluation or information synthesis, which should not be dealt with concurrently (as in traditional group discussions). NGT is structured in such a way that these two processes are dealt with independently, and indeed at the end of an NGT session data will have been produced for each of these phases, making the technique efficient in terms of its data yield. It is also efficient in terms of time as the data from the session is written up in the presence of the participants as part of the process and there is therefore no need to audio-record and transcribe the discussion or for subsequent transcript validation by participants.

The flexibility of NGT is further enhanced by its production of both qualitative and quantitative data: qualitative in terms of the articulation of pertinent issues and quantitative in terms of the rank ordering of priorities. This 'allows the researcher to improve the accuracy of their conclusions' (MacPhail 2001, p168).

The structured nature of the process also allows for more equitable levels of contribution than traditional group discussions as every participant contributes (certainly in the round-robin generation of ideas and in the voting process) and each individual idea is considered. The group is deemed to be 'nominal' as the process relies on individual contribution and not on interaction - the 'group' is therefore arguably a group in name only. Limiting interaction (of participants with each other

and of participants with the researcher) limits the potential for dominance and bias to influence the outcome. The researcher's role is limited to that of information manager, thereby reducing the opportunity to influence the production of ideas (O'Neil and Jackson 1983). A further advantage in terms of participants' control is that the ideas and their categorisation are informed directly by the participants and not imposed by the researcher. This lends greater integrity to the data (MacPhail 2001). Indeed, Gibson and Soanes (2000) go as far as to claim that 'members have an equal opportunity to contribute' (p. 462). However, this claim has met with some dispute as others (Lomax and McLeman 1984) have argued that while NGT can limit the influence of dominant and/or high status individuals, it cannot eradicate their influence completely.

The structured nature of NGT brings many benefits, essentially achieved because of its focus on 'the consumer rather than the producer' (Lomax and McLeman 1984, p. 183), resulting in data that has had a maximum input from group participants with a minimum of influence (other than administrative) from the researcher(s).

NGT process and sample

Stimulus question and pilot exercise

A number of research team meetings were held and various variations of the stimulus question to be used during the NGT sessions were discussed. The preferred question was chosen ('*What kind of CPD would you like at this stage of your career?*') and was piloted via email in a local authority which was not taking part in the main NGT exercise.

NGT sessions and sample

Four local authorities were identified, taking into consideration: geographic and demographic variety; existing relationships with local authorities; and ease of access for research team (who were geographically spread). After securing cooperation from the relevant directors of education, or equivalent, local authority CPD coordinators were approached personally by the research team, and participants for the NGT sessions were identified by their local authority employers as being within the target group. The project team requested a mix of nursery, primary, secondary and special education teachers and where possible this was accommodated. Clear guidelines and instructions were developed for the facilitation of the NGT sessions and an NGT session protocol was devised to ensure a consistent approach amongst research team members.

During the month of June in 2007, a total of 10 NGT sessions were arranged, with 59 participants taking part in four different local authorities. Numbers of participants per session generally ranged from five to eight, although two sessions had only two participants each. The data gathered in the two smallest sessions has been considered in terms of the range of CPD needs identified but the scoring information from the voting process may not be as relevant with such a small number of participants and is therefore not included in the analysis of CPD priorities.

Participant profiles

Figure 1 below shows the breakdown of participant profiles across all 10 NGT sessions. It shows a fairly representative population, with the exception perhaps of the year of teaching, where the majority of participants (63%) were in years 2 and 3.

Characteristic	**Proportion in each category**				
Gender	Female: 81% (n=47)			Male: 19% (n=11)	
Year of teaching	2nd 31% (n=18)	3rd 32% (n=19)	4th 20% (n=12)	5th 14% (n=8)	6th 3% (2)
Sector	Primary: 63% (n=37)	Secondary: 32% (n=19)		Special: 5% (n=3)	
Qualification	PGCE/PGDE: 64% (n=38)			BEd: 36% (n=21)	

Figure 1: Breakdown of NGT participant profiles

NGT analysis

The wide-ranging responses to the stimulus question ('*What kind of CPD would you like at this stage of your career?*') were clustered thematically, analysed and coded using the software programme NVivo (see Gibbs, 2002, for further details of NVivo). Coding categories were created from the data in a grounded fashion, and all comments made in response to the stimulus question were attributed to these codes or 'nodes' as they are called in NVivo. The coding process involved clustering similar items and a final total of 30 nodes or coding categories were devised (see Figure 2).

In addition to analysis of the range of items generated, the NGT process also allows for the strength of view to be identified, the NGT sessions requiring each participant to score their top 5 priority CPD needs from the master list created in their session. The item perceived to be of highest priority was given 5 points, followed by 4 points to the next highest priority item and so on. For all items in each node the total number of points awarded by participants was calculated as illustrated in Figure 2; also shown

is the number of items (i.e. responses) contained within each node. It should be noted that the number of items categorised under each node is not necessarily indicative of strength of view, and the nodes are therefore not directly comparable. The identification of nodes has been imposed during the analysis process and each node is not necessarily deemed to be a category of similar size or value. Rather, the nodes have been developed in a grounded way to assist in making sense of themes arising from the data.

Node Number	Node	Total points awarded to items in this node	No. of items in this node
1	A Curriculum for Excellence (CfE)	96	13
2	Career guidance and progression	82	14
3	Pedagogy	81	20
4	Subject or topic specific CPD	78	34
5	Additional Support Needs (ASN)	73	14
6	Behaviour management strategies	67	8
7	CPD mode or delivery	52	16
8	Management and leadership	45	9
9	ICT	37	15
10	Inclusion	25	3
11	Sharing practice	25	6
12	Broadening experience	24	6
13	Observation and shadowing	22	8
14	Professional terms and conditions	22	4
15	Exam issues and moderation	18	7
16	Personal and interpersonal development	16	4
17	Stage or context specific CPD	15	4
18	Practical CPD	12	6
19	Research, development and scholarship	12	6
20	Planning	11	4
21	Pastoral care and guidance	8	3
22	Mentoring and coaching	7	6
23	Working with others	7	3
24	Access	6	3
25	Collegiate CPD	6	5
26	Ethos	4	2
27	Transitions	4	6

28	National initiatives	3	5
29	Extra-curricular opportunities	1	3
30	Familiarisation with resources	0	2

Figure 2: Node listing and total number of points and items per node

To refine further the data gathered, an analysis was made of the top priority items identified in each NGT session. For each NGT session, the top three priority items were taken. Two NGT sessions had two items in equal third place and so these two sessions each have 4 items that were included. For analytical purposes, the top three priority items for each NGT session were matched to their accompanying nodes to provide us with an overview of priority nodes. It should be noted that as two NGT sessions had two participants only, their priority scores have been excluded from this analysis. An overview of top priority items by node is shown in Figure 3 below:

Node Number	**Node**	**No. of appearances in 'top 3' priorities**
1	Curriculum for Excellence	6
6	Behaviour management strategies	4
3	Pedagogy	4
5	Additional Support Needs	3
2	Career guidance and progression	2
8	Management and leadership	2
4	Subject or topic specific CPD	2
7	CPD mode or delivery	1
14	Professional terms and conditions	1

Figure 3: Top priority items by node

Issues arising

Analysis of the NGT data, together with the review of literature, has resulted in a number of themes being identified.

Heterogeneity of year 2-6 teachers

The review of literature indicates that the early professional development (EPD) stage is neither neatly defined nor well-researched. In terms of defining the stage, the focus on years 2-6 in Scotland is influenced by the structure of the CPD framework rather than by any particular notion of teacher development. This means that teachers in this phase of their careers are unlikely to be a homogeneous group and are therefore likely to have quite different needs; a fact borne out in both the literature review and in the wide range of CPD needs identified by participants in the NGT sessions. Linked to this, the literature warns that EPD programmes must be flexible and that a 'one size fits all' programme is not appropriate

Needs identified

The CPD needs prioritised by the NGT participants indicate a view of CPD as more than topic-based courses, demonstrating a fairly wide and sophisticated understanding of what CPD entails. The range of priorities (Figure 2) includes topic-based concerns; a desire to implement current initiatives effectively, e.g. Curriculum for Excellence (the new curriculum for 3-18 year olds in Scotland. See www.curriculumforexcellencescotland.gov.uk); issues relating to career progression and development; and a desire for a more flexible and varied range of CPD opportunities. Consequently, it will be important to ensure in any future development of EPD support nationally that the focus is broad enough to address these quite different concerns.

Professional review

Effective professional review and evaluation is crucial, both at the transition from induction to year 2 and throughout the EPD phase, an issue raised explicitly in the literature. The NGT data contained comments about the appropriateness of CPD opportunities, thereby implying that the year 2-6 teachers did not always feel that their CPD was matched to their particular needs; effective professional review will help to make this match more appropriate.

Collaborative EPD

Several pieces of literature reviewed proposed that there ought to be some form of mentoring continued beyond the induction year. The NGT participants supported this through their explicit mention of a desire to engage in mentoring and coaching as both mentees and mentors.

There are clear suggestions in the literature that 'effective' CPD for early career teachers, and indeed for most teachers, tends to be collaborative, involving engagement with colleagues which is contextually appropriate. The NGT participants echoed this in many of their statements, in particular in the 'observation and shadowing', 'sharing practice' and 'working with others' nodes. There are implications arising from this in relation to the extent to which the current CPD framework in Scotland, which is essentially individually focused, can support collaborative CPD.

Comparing the NGT data with the subsequent national survey

The purpose of the NGT phase in this project was to find a time and cost effective way to gather data which would help to inform that national survey, thereby ensuring

greater relevance of the questions to the target population. The analysis of the NGT data produced a list of thematic nodes as well as a list of priority items voted for in each of the 10 NGT sessions. The top three priority items voted for across all of the ten NGT sessions were: Curriculum for Excellence (CfE), behaviour management strategies and pedagogy (refer to Figure 3). The top three priorities identified in the survey (that is, the highest percentage of respondents indicating that a particular need was either 'important' or 'very important' in a tick-box rating scale) for all 667 useable responses were: keeping up-to-date with teaching strategies (pedagogy), CfE and subject or topic-related CPD. There was, therefore, generally broad agreement between the NGT data and the survey data, albeit with some minor differences, particularly when the survey data was disaggregated by length of teaching experience. (Details of survey respondent characteristics can be found in Appendix 1.)

While comparing the needs identified by respondents in the NGT and survey data is one way of evaluating the validity of the NGT process, another, perhaps more significant measure is the extent to which respondents added 'other' needs in addition to the ones listed in the survey, thereby indicating that the list provided did not perhaps reflect their own views. The survey had provided a rating scale for ten different CPD needs identified through the NGT process, it then asked respondents to add comment on any other needs not listed. There were 94 comments made, most of which either reiterated issues listed in the rating scale or providing more specific detail within the existing categories. There were one or two additional needs identified that appeared to originate from specific contexts, for example: 'mini-bus licence' or 'courses for boarding students'. However, there were no significant new categories of CPD needs identified in the comments. This suggests that NGT was an

effective means of informing the survey, ensuring its appropriateness to the target group and increasing the extent to which data could be anlaysed on the rating scale as opposed to having to code and analyse narrative data from scratch.

Concluding comments

The NGT data identifying both the range and priority of CPD needs has been used to inform the national survey, together with evidence gleaned from the review of literature, particularly in relation to barriers to CPD. While the four local authorities selected for the NGT phase were chosen to reflect a balance of demographics, the subsequent survey allowed the team to test its data against a much more diverse and representative sample.

In methodological terms, the use of NGT was deemed to be successful from the research team's perspective in that it was time and cost efficient, it provided both range of view and strength of view, and the data were recorded and validated by participants. However, concerns raised earlier in the paper remain, particularly in relation to the question of consensus. The NGT process claims to provide 'consensus' of view (Delbeq et al. 1975), yet this claim is disputed by those who believe that the structured nature of the process influences the dynamics to such an extent that the 'consensus' arrived at is artificial (Lomax and McLeman 1984; Lloyd-Jones et al. 1999). Nonetheless, surely any consensus is arrived at through a process, however, prescriptive or otherwise. If we are prepared to accept that consensus implies informed agreement, then we can accept that NGT is one form of achieving consensus of view. When the NGT data was subsequently tested on the larger population, on an individual basis, as was done with the survey in this project, then the issue of how the

consensus was arrived at becomes less important as the subsequent data provides another perspective on range and strength of view. We conclude, therefore, that the limitations of using NGT can be tempered when it is combined with subsequent data gathering, and that the use of NGT serves to ensure that the subsequent data gathering, in this case the national survey, is informed by the views of a sample of the target population.

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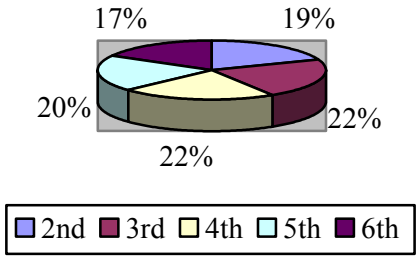
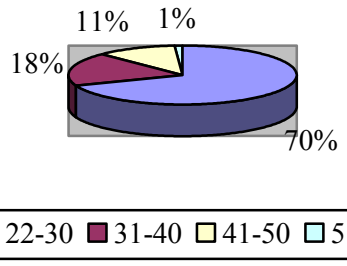
APPENDIX 1

SURVEY RESPONDENT CHARACTERISTICS (n=667)

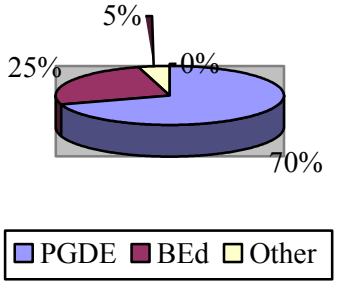
Year of teaching



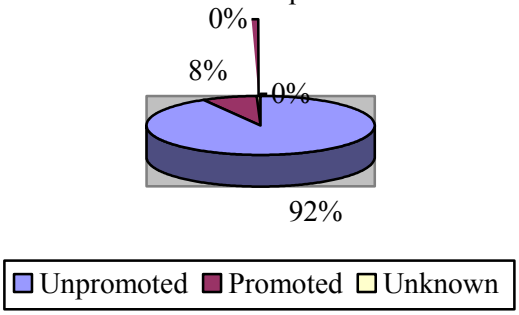
Age



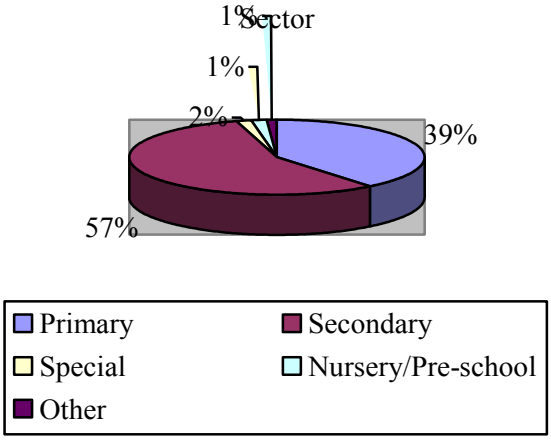
Teaching Qualification



Level of post



Sector



School setting